

ABSTRACT OF SANITARY REPORTS.

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UNITED STATES.

SPECIAL REPORTS.

Yellow fever—Delaware Breakwater Quarantine Station.

The following telegram has been received from Acting Assistant Surgeon William P. Orr, M.-H. S., in charge of the Delaware Breakwater Quarantine Station :

JUNE 21, 1890.—The British ship *Algoma* arrived at this station last night, forty-four days out from Rio. She had several cases of yellow fever whilst at Rio, but none since leaving there. I have detained her for disinfection.

Also the following letter, under date of June 20, 1890 :

SIR: The British ship *Algoma* arrived at this station this evening, forty-four days out from Rio. The crew are all well, and the captain says there has been no sickness during the voyage. The mate fell down the hold on the 5th of June and died in a short time. On examination of the ship's log I found that several of the crew were sent ashore at Rio with "the fever" and several deserted. Five men were shipped from Rio in place of those who deserted, each of them bringing a bag of clothing aboard with him. The condition of the ship is good, everything being remarkably clean. I have detained the ship for disinfection.

Yellow fever—Gulf Quarantine Station.

Passed Assistant Surgeon H. A. Carter, in command of the quarantine station at North Chandeleur Island, Louisiana, forwards the following report of a new case of yellow fever which developed at his station subsequent to the death of the seaman from the British bark *Avon*, which vessel was discharged from quarantine June 16 in free pratique :

SIR: I have the honor to report a case of yellow fever here in Attendant (boatman) Alfred Johansen, developing between 2 and 3 a. m. June 10, 1890.

Said Johansen had been employed, alternating with another attendant, as ballast-master and guard aboard the ship *Avon*, in quarantine here, and helping to clean her for disinfection, and also in moving and burying the patient who died ashore.

He stated before I employed him, February, 1888, that he had had yellow fever, else I had not done so, and I know he spoke in good faith, from my knowledge of the man and the perfect indifference he always exhibited to exposing himself to it.

He had been one season in quarantine with my predecessor. However that may be, he has it now.

The diagnosis was made with sufficient certainty the day he sickened, but as no letter can go till the mail-boat comes in this report was not written until the disease has sufficiently developed to put the matter beyond cavil.

He is, of course, isolated from the other boatmen, that there may be no chance of their conveying infection to vessels with whose crews they must come in contact.

It promises to be not a severe case, milder than the average.

Reports of States, and yearly and monthly reports of cities.

CALIFORNIA.—Month of May, 1890. Reports to the State board of health from 103 cities and towns, with an estimated population of 766,625, show a total of 1,022 deaths, which is a slight increase over the preceding month. The principal causes of death were from diseases of the lungs and heart. Phthisis pulmonalis caused 164 deaths; whooping-cough, 4; diphtheria and croup, 27; scarlet fever, 4; measles, 13; and enteric fever, 16. The monthly reports says:

Reports of sickness received from ninety-two localities give very favorable records regarding the general health of the public. In many places measles prevail to a large extent, and whooping-cough is almost epidemic in one or two localities. The weather for the month of May being quite favorable to those suffering from diseases of the respiratory organs, a marked decrease was noted in the prevalence of pneumonia, bronchitis, and influenza, while on the other hand an increased prevalence was noted in the frequency of bowel and stomach disorders.

CONNECTICUT.—Month of May, 1890. Reports to the State board of health from 167 towns, having an estimated population of 758,222, show a total of 978 deaths, including phthisis pulmonalis, 133; influenza, 1; scarlet fever, 9; diphtheria and croup, 49; whooping-cough, 9; and enteric fever, 13.

The following is extracted from the *Monthly Bulletin*:

Notification of infectious disease.—The State is to be congratulated upon the favorable reception with which the practice of notification of infectious diseases has been met in so many towns. As a means of protecting the public it is coming to be duly appreciated.

The following facts emphasize its value:

In ———, Conn., a case of scarlet fever occurred in a family. The ordinary precautions of isolation, etc., were directed by the board of health. One point, however, was overlooked or disregarded. The family owned a cow, and a member of the sick family carried milk to two other families, leaving it at the door of their houses. Shortly after two children of one of the families using this milk took scarlet fever

and died. Then isolation and disinfection of all the infected places were rigidly observed, speedy and private burial was required, and the disease was arrested. At this period much alarm was excited, and families were sending their children away. The question arises—what danger to other communities may follow removal of children which have been exposed? The right and duty of parents to remove their children from the presence of infectious disease can not be questioned. But what of the rights of the communities to which they go? The golden rule of doing as you would be done by would seem to demand that the health officer of the town of A should inform the health officer of the town of B that Mr. X of the town of A has sent his children to No.—, — street, in B, to escape the danger of exposure to scarlet fever, which is prevailing in the neighborhood of the residence of Mr. X in A.

Such notification would enable the health officer of B to quietly take such precautions in reference to the children of Mr. X as would most effectually prevent the spread of the disease if they should be the subjects of it.

Quibblers for personal rights will object to such espionage of private homes, but the rights of the public are superior to those of the individual, and the temporary inconvenience and even annoyance of the few should be patiently endured, rather than the unnecessary sickness and death of many which can be avoided.

As illustrating the necessity of greater attention to the precautions for escaping the contagion of scarlet fever two towns in the State report an invasion of that disease from Bridgeport, one family bringing children home from that city "while still contagious," from whom five new cases occurred.

In another instance, the only one in that town, a child was taken with scarlet fever soon after returning from a visit to Bridgeport. There are no means of knowing how many cases occur in consequence of convalescents from scarlet fever being permitted to travel on the cars, and so communicating the disease to fellow-passengers, or leaving the infection upon the cushioned seats to infect later occupants of the same cars.

An outbreak of diphtheria is reported at Haddam. There were seven cases in one family. It was attributed to opening a drain leading from a sink to a cesspool, distance ten rods. Whooping-cough is reported as prevalent in Marlborough, and also in the west mountain district of Ridgefield, the result of an importation of five cases from New York in one family. Measles have in several instances been traced from one town to another.

ILLINOIS—*Peoria*.—Month of March, 1890. Population, 40,000. Total deaths, 56, including phthisis pulmonalis, 7; diphtheria, 1; scarlet fever, 1; and whooping-cough, 3.

Month of April, 1890. Total deaths, 61, including phthisis pulmonalis, 5; croup, 1; enteric fever, 2; and whooping-cough, 1.

Month of May, 1890. Total deaths, 36, including phthisis pulmonalis, 5; and whooping-cough, 1.

MASSACHUSETTS—*Worcester*.—Month of May, 1890. Population, 85,000. Total deaths, 102, including phthisis pulmonalis, 16; diphtheria, 2; whooping-cough, 1; and enteric fever, 1.

MICHIGAN.—Week ended June 14, 1890. Reports to the State board of health, Lansing, from 61 observers, indicate that puerperal fever, typhoid fever, typho-malarial fever, cerebro-spinal meningitis, cholera infantum, scarlet fever, cholera morbus, intermittent fever, tonsilitis, and whooping-cough increased, and that diphtheria, membranous croup, and pleuritis decreased in area of prevalence.

Diphtheria decreased by 29 per cent., and was reported at 20 places; scarlet fever at 24 places; enteric fever at 8 places; and measles, which decreased by 46 per cent., at 41 places.

Detroit.—Month of May, 1890. Population, 250,000. Total deaths, 295, including phthisis pulmonalis, 31; croup, 8; diphtheria, 19; measles, 7; whooping-cough, 1; and scarlet fever, 4.

NEBRASKA—*Omaha.*—Month of May, 1890. Population, 120,000. Total deaths, 128, including diphtheria and croup 11 and enteric fever 1.

TENNESSEE.—Month of May, 1890. Reports to the State board of health indicate that the principal prevailing diseases during the month, named in the order of their greater prevalence, were dysentery, malarial fever, diarrhœa, consumption, cholera morbus, pneumonia, rheumatism, cholera infantum, bronchitis, tonsilitis, and influenza. Enteric fever was reported in 12 counties, measles in 11 counties, whooping-cough in 9 counties, diphtheria in 3 counties, and chicken-pox in Williamson County.

Reports from 6 cities and towns, having an aggregate population of 222,551, show a total of 367 deaths, including phthisis pulmonalis, 60; diphtheria and croup, 3; enteric fever, 10; measles, 11; and whooping-cough, 3.

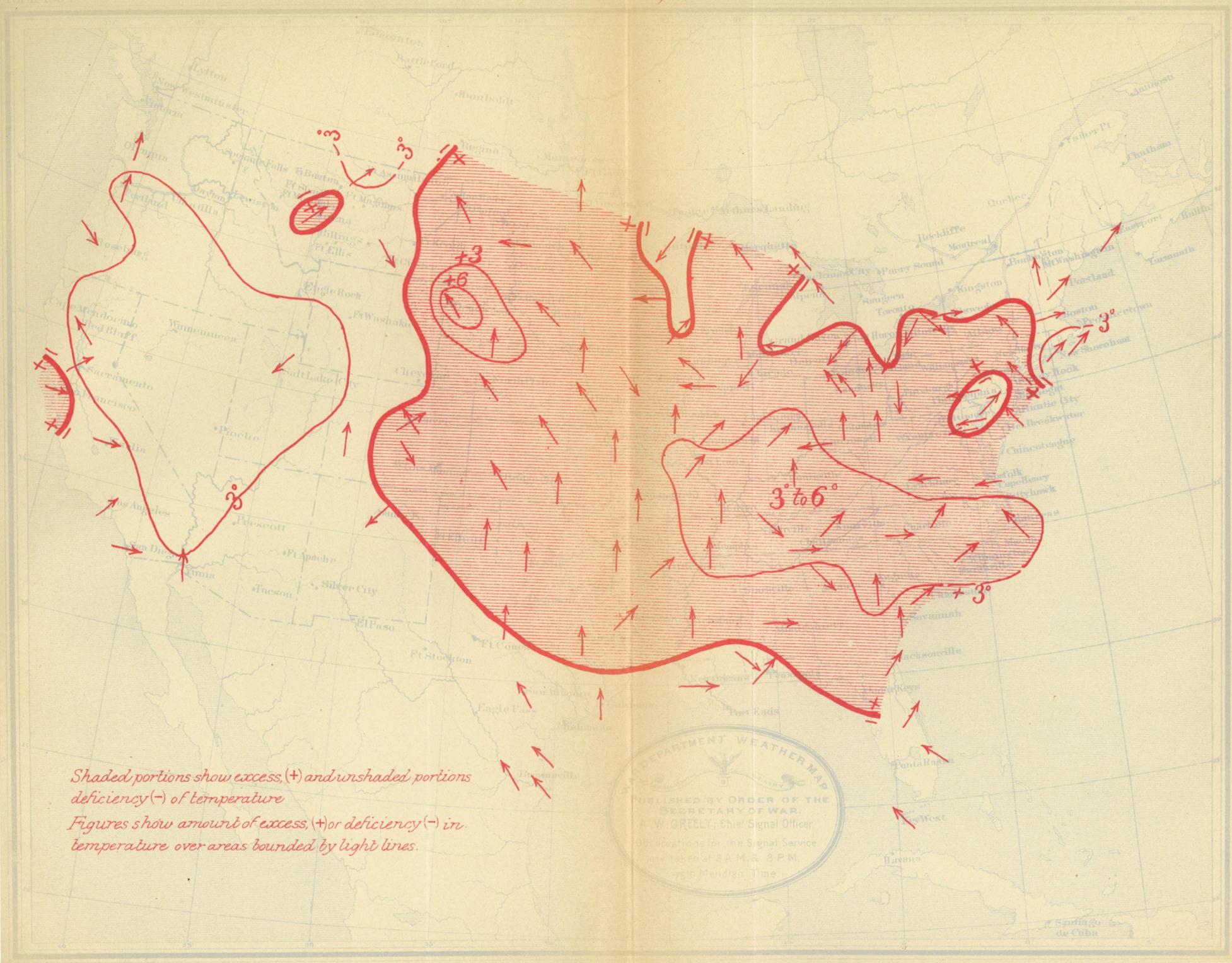
UTAH—*Salt Lake City.*—Month of May, 1890. Population, ———. Total deaths, 57, including phthisis pulmonalis, 1; diphtheria, 9; croup, 2; scarlet fever, 4; enteric fever, 3; measles, 1; and whooping-cough, 1.

Publications received.

Report of the health of Liverpool, England, during the year 1889.

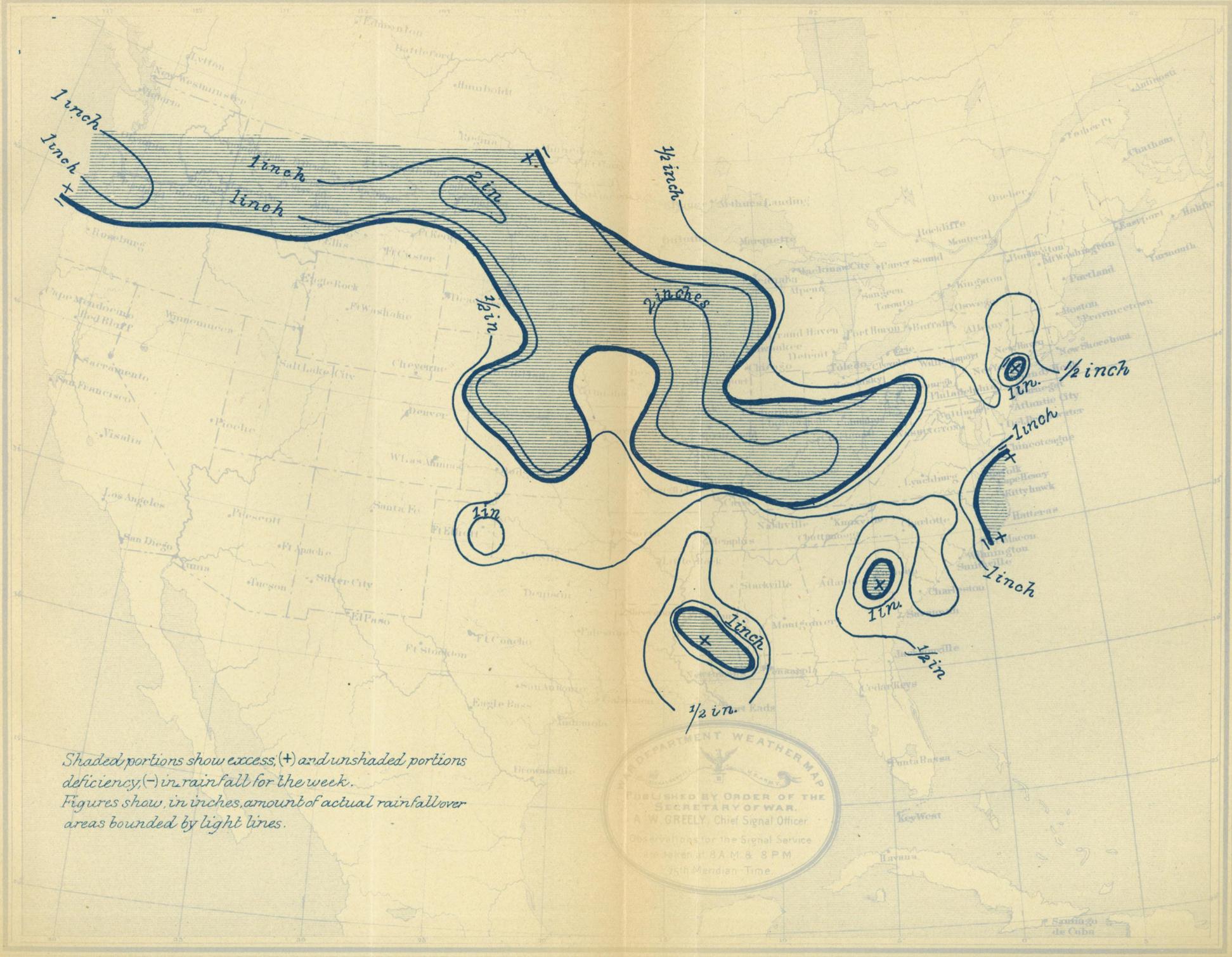
*Temperature and Prevailing Direction of Wind, week ending
June 20, 1890.*

Form 1001 F



Rainfall, week ending June 20th. 1890.

Form 106 F



Shaded portions show excess, (+) and unshaded portions deficiency, (-) in rainfall for the week. Figures show, in inches, amount of actual rainfall over areas bounded by light lines.

DEPARTMENT WEATHER MAP
PUBLISHED BY ORDER OF THE SECRETARY OF WAR.
A. W. GREELY, Chief Signal Officer.
Observations for the Signal Service
at 8 A.M. & 8 P.M.
5th Meridian Time.

PRECIPITATION.

There has been more than the usual amount of rain in the Ohio, upper Mississippi, and Missouri valleys, the belt of excessive rain-fall extending westward from Dakota to the Pacific. Excessive local rains have also occurred in the south Atlantic and east Gulf States and in the middle Atlantic States. The heaviest rains occurred in the central Ohio and upper Mississippi valleys, where the precipitation exceeded two inches. Very light showers occurred on the east New England coast and in western New York, and no rain occurred over the greater portion of Texas and California. The rain-fall for the season continues in excess throughout the northern States east of the Mississippi, and in Kentucky, Tennessee, Arkansas, and Texas, and on the Pacific coast north of central California. There has been from one-fourth to one-half more than the usual rain-fall from northern Texas northeastward over the central Mississippi and Ohio valleys to western New York. The large deficiency in rain-fall reported last month in Minnesota and Dakota has disappeared, and at present there is an excess of seasonal rain-fall reported in northwest Dakota, while over the remaining portions of this section about 90 per cent. of the normal rain-fall has occurred. Drought continues in western Florida, where less than 40 per cent. of the normal rain-fall has occurred, but in other sections of the east Gulf and south Atlantic States the seasonal rain-fall generally exceeds 60 per cent. of the normal, while in the northern portions of Alabama and Mississippi the rain-fall has been in excess.

FOREIGN.

(Reports received through the Department of State and other channels.)

GREAT BRITAIN—*England and Wales.*—The deaths registered in 28 great towns of England and Wales during the week ended June 7 corresponded to an annual rate of 18.0 a thousand of the aggregate population, which is estimated at 9,715,559. The lowest rate was recorded in Bristol, viz, 11.0, and the highest in Bolton, viz, 29.3 a thousand. Diphtheria caused 2 deaths in Salford.

London.—One thousand three hundred and ninety-three deaths were registered during the week, including measles, 91, scarlet fever, 11; typhus, 1; diphtheria, 20; whooping-cough, 75; enteric fever, 7; and diarrhoea and dysentery, 8. The deaths from all causes corresponded to an annual rate of 16.4 a thousand. Diseases of the respiratory organs caused 229 deaths. In greater London 1,742 deaths were registered, corresponding to an annual rate of 15.8 a thousand of the population. In the "outer ring" the deaths included measles 26 and whooping-cough 20.

Ireland.—The average annual death rate, represented by the deaths registered during the week ended June 7, in the 16 principal town districts of Ireland, was 18.0 a thousand of the population. The lowest rate was recorded in Kilkenny, viz, 4.2, and the highest in Galway, viz, 43.7 a thousand. In Dublin and suburbs 145 deaths were registered, including typhus, 1; enteric fever, 3; and diphtheria, 1.

Scotland.—The deaths registered in eight principal towns during the week ended June 7 corresponded to an annual rate of 22.0 a thousand of the population, which is estimated at 1,345,563. The lowest mortality was recorded in Greenock, viz, 9.8, and the highest in Glasgow, viz, 27.3 a thousand. The aggregate number of deaths registered from all causes was 568, including measles, 35; scarlet fever, 6; diphtheria, 6; whooping-cough, 31; fever, 6; and diarrhoea, 13.

SPAIN—*Valencia—Cholera.*—A telegram from the United States chargé d' affaires *ad interim* at Madrid, dated June 18, states that Asiatic cholera is rapidly spreading at Valencia.

BRAZIL—*Rio de Janeiro.*—Week ended May 24, 1890. Population, 450,000. Total deaths 243, including yellow fever, 14; small-pox, 7; enteric fever, 6; typhus, 3; and phthisis pulmonalis, 5. The sanitary condition of the city was good.

Para.—June 2, 1890. The United States consul reports as follows:

The sanitary condition of this city and the adjacent country is very good. Estimated population, 80,000. Number of deaths from the 5th

of May to 31st, 191, including 20 from beri-beri, 1 from yellow fever, and 1 from leprosy.

Ceara.—Month of April, 1890. Population, 33,000. Total deaths, 144, including yellow fever, 6; typhus, 1; and beri-beri, 1. Very heavy rains all the month caused light fevers and colds.

BRITISH INDIA—*Singapore.*—Month of March, 1890. Total deaths, 661, including fevers, 209; bowel complaints, 61; small-pox, 5; and beri-beri, 30.

AZORES—*San Miguel*—*Small-pox.*—The United States consul at Fayal states, under date of June 3, 1890, that the small-pox epidemic at San Miguel is decreasing in the city of Ponta Delgada, but has appeared in several villages of the more remote parts of the island.

DUTCH GUIANA—*Paramaribo.*—Month of April, 1890. Population, 27,752. Total deaths, 96, including malignant fever 7 and leprosy 2.

DEMERARA—*Georgetown.*—Week ended May 17, 1890. Population, 54,000. Total deaths, 185, including phthisis pulmonalis, 29; diseases of bowels, 23; fevers, 18.

CUBA—*Havana.*—Week ended June 12, 1890. Fourteen deaths from yellow fever were reported.

Santiago de Cuba.—The United States consul reports as follows, under date of June 14:

The death rate for April and May has been unusually low, notwithstanding high winds and sudden changes of temperature. During the last half of May only one case of yellow fever occurred in the town, the military hospital being entirely free from the disease. I continue, under existing circumstances, to issue clean bills of health to vessels leaving here for the United States. The heat at present is intense.

Statistics of mortality from epidemic diseases for the city of Havre for the month of April, 1890.

[Translated for this Bureau from the monthly report of the consulting commission of the bureau of hygiene, Havre, France, May 21, 1890.]

Measles, 75 deaths; 385 cases reported. Scarlet fever, 1 death; 29 cases reported. Typhoid fever, 9 deaths; 27 cases reported. Croup and diphtheria, 12 deaths; 14 cases reported. Whooping-cough, 7 deaths; 21 cases reported.

Of the 75 deaths stated as occasioned by measles, the greater number were due to pneumonia, broncho-pneumonia, and capillary bronchitis, supervening on the first symptoms.

The number of cases of measles is probably much below the true figure. Multiplying it by ten would probably give an approximately accurate result.

The total number of deaths for the month of April reached 375, being for the four first months of the year 1,349 deaths to 1,026 in 1889 and 1,520 in 1888.

Diseases prevalent in the city of Constantinople during the month of May, 1890.

[Translated for this Bureau from *La Revue Médico-Pharmaceutique*, Constantinople, May 31, 1890.]

The sanitary condition of the city shows a slight improvement since April.

Acute affections of the respiratory system, broncho-pneumonia, catarrhal angina, etc., prevail largely, especially among children. Measles persists in an epidemic form. Scarlet fever has decreased at Péra, and prevails with intensity in some other quarters of the city.

Small-pox and varicella claim some cases. Typhoid fever and intermittent fevers, especially in the larval form, are not infrequent. Enteritis, puerperal fever, erysipelas, croup, and diphtheria are rare.

The total number of deaths at Constantinople during the month of April was 1,020.

The organisms of nitrification.

[Translated for this Bureau from the *Annales de l'Institut Pasteur*, Paris, 1890.]

The theory that nitrification of the ammonia of the soil is due to the action of a specific microbe was introduced into science by Schlössing and Muntz, of Zurich. Their experiments clearly demonstrated that active nitrification is produced solely by the operation of the lower organisms of the soil. From the strictly bacteriological stand-point they left the subject somewhat obscure, but they advanced the problem to a point from which a definite solution could be predicted, and the results obtained by them have served as the initial step in a series of remarkable investigations.

A survey of the researches undertaken with the object of isolating the organism of nitrification, and studying its morphological and physiological properties, shows the absence of positive results, but the concurrence of living agents in the phenomena of nitrification is a fact indisputably proved by the experiments of Schlössing and Muntz, and the difficulties encountered in the attempt to identify these agents are doubtless due to the fact that the faculty of nitrifying is rare in the world of microbes, and is a function proper to a few, or, it may be, to one microbe only, which has hitherto eluded discovery. If there exist organisms whose rôle is exclusively the oxydation of hydrosulphuric acid and of the salts of iron (the sulphobacteria and ferrobacteria), there is strong reason to infer the existence of specific organisms for developing a source of energy as fertile as the combustion of the ammonia of the soil and of natural waters.

The present writer (Dr. Winogradsky) claims to have isolated the microbe of nitrification. He employed a nutritive liquid highly favorable to nitrification, the composition of which was as follows: Sulphate of ammonia, 1 gramme; phosphate of potash, 1 gramme; lake water, 1,000 grammes. To each vial containing 100 ccm. of the liquid was added from 0.5 to 1 gramme of basic carbonate of magnesia suspended in a little distilled water and forming with it a sterilized milk by ebullition. The cultivation was continued sufficiently long to allow of the

elimination of all species not adapted to conditions favorable to nitrification. When the cultures were so far purified as not to be susceptible of farther alterations, nitrification remaining intense, he proceeded to isolate all the species present and then to test in pure culture their nitrifying capacity. By these means he succeeded in isolating the nitric ferment.

This term does not imply one single species which alone possesses this function. It indicates rather a strongly characterized physiological type. Its morphological properties may vary according to locality, and there exist, probably, only a few species.

On comparison of the proportion of azote nitrified in one day, in the experiments made by Dr. Schlössing, the writer finds it inferior to that nitrified by his cultures. He will furnish proof of this statement in the next number of the *Annales*.

MORTALITY TABLE—FOREIGN CITIES.

| Cities. | Week ended. | Estimated population. | Total deaths from all causes. | Deaths from— | | | | | | | | | |
|----------------------|--------------|-----------------------|-------------------------------|--------------|---------------|------------|---------------|----------------|----------------|-------------|----------|-----------------|--|
| | | | | Cholera. | Yellow fever. | Small-pox. | Typhus fever. | Enteric fever. | Scarlet fever. | Diphtheria. | Measles. | Whooping-cough. | |
| Paris | May 31..... | 2,260,945 | 948 | | | | | | | | | | |
| Calcutta..... | May 3..... | 433,219 | 230 | 15 | | 1 | | 10 | 6 | 8 | 50 | 30 | |
| Calcutta..... | May 10..... | 433,219 | 233 | 14 | | 14 | | | | | 1 | | |
| Rome | May 10..... | 418,217 | 156 | | | | | | | | 4 | | |
| Palermo..... | May 31..... | 250,000 | 96 | | | | | | 4 | | | | |
| Bristol..... | May 24..... | 232,248 | 65 | | | | | 2 | | | | | |
| Bristol..... | May 31..... | 232,248 | 69 | | | | 1 | | 1 | | | | |
| Bristol..... | June 7..... | 232,248 | 49 | | | | | | 2 | | | | |
| Rotterdam | June 7..... | 203,472 | 78 | | | | | | | | | | |
| Genoa | June 7..... | 180,294 | 71 | | | 2 | 1 | | 2 | 2 | | | |
| Leghorn..... | June 1..... | 103,659 | 62 | | | | | | | | | | |
| Cadiz..... | May 31..... | 57,157 | 41 | | | | | 1 | | 1 | | | |
| Vera Cruz..... | June 5..... | 23,800 | 28 | | | | | | | | | | |
| Vera Cruz..... | June 12..... | 23,800 | 20 | | | | | | | | | | |
| Gibraltar..... | June 1..... | 23,681 | 6 | | | | | | | | | | |
| Sagua..... | June 7..... | 15,605 | 11 | | | | | | | | | | |
| Flushing..... | June 7..... | 12,793 | 5 | | | | | | | | | | |
| Guelph Junction..... | June 16..... | 10,173 | 1 | | | | | | | | | | |
| La Guayra..... | May 31..... | 7,428 | 3 | | | | | | | | | | |
| La Guayra..... | June 7..... | 7,428 | 2 | | | | | | | | | | |

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